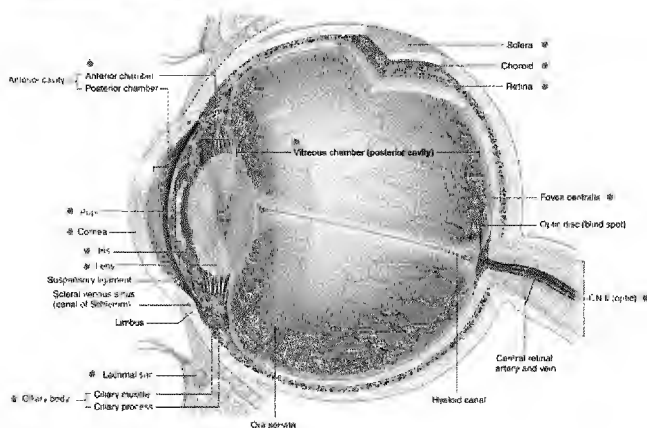
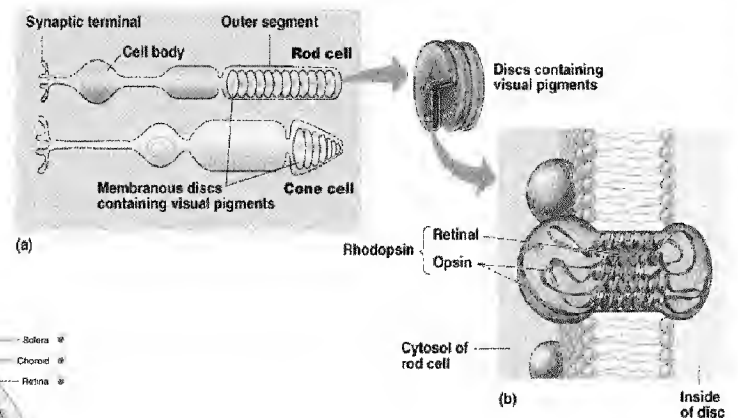
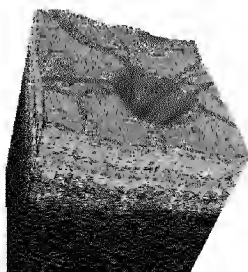


Notes in Ophthalmology 2010



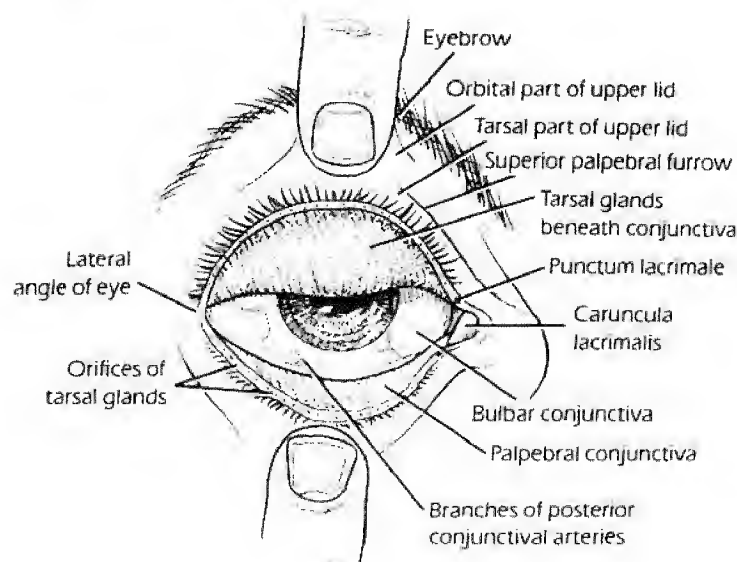
Dr. Mahmoud Medhat

011 300 4 901

Ophthalmology

1

Eyelid



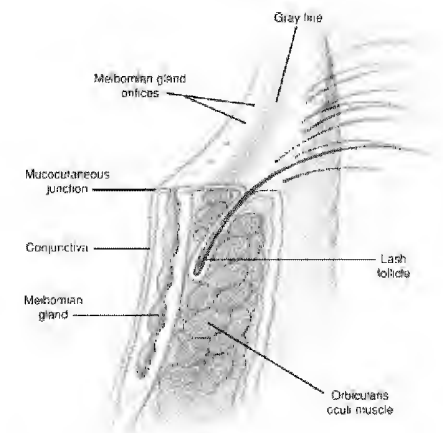
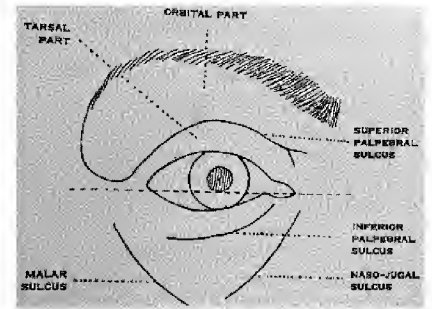
Dr/ Mahmoud Medhat

011 300 4 901

To the only one who gave me **HOPE**

Gross anatomy

- Two movable mucocutaneous folds. The upper lid is more movable than the lower.
- The upper lid ends at the eye brow, while the lower one extends to the cheek without a line of demarcation.
- The upper eyelid covers 1/6 of the cornea (2 mm). While the lower eyelid is at the level of the limbus.
- There is a crease in the upper eyelid, that develops on raising the lid, due to the attachment of the levator palpebrae superioris muscle.
- **The palpebral fissure** is the space between the two eyelids, when they are open. The medial & lateral angles of the palpebral fissure are the medial & lateral canthus respectively. The medial one is rounded, while the lateral is acute. The palpebral fissure is elliptical in shape, when opened, it is 30 mm in length & 15 mm in width.
- **The lid margin:** 2mm, free margin of the lid.
 - Divided by the lacrimal papilla into two portions:
 1. **Lacrimal portion:** Smaller & medial to the puncta.
 2. **Ciliary portion:** Larger & lateral to the puncta:
 - Anterior border: Rounded & carrying the eyelashes.
 - Posterior border: Sharp & in contact with the surface of the eye (*For conduction of tears towards the puncta*).
 - The **gray line** lies in the middle of the lid margin in front of the meibomian gland orifices. Incision at that line opens into the submuscular layer, dividing the lid into:
 1. Anterior lamella: Skin, orbicularis oculi & hair follicles.
 2. Posterior lamella: Tarsal plate & conjunctiva.



Microscopic anatomy

The eyelid is formed of 6 layers (*From before backwards*):

1. **Skin:** Thin & loosely attached to the underlying structures.

2. **Subcutaneous areolar layer:** Loose CT with no fat.

3. **Muscular layer:**

- a. Orbicularis oculi (*Palpebral portion*).
- b. Levator palpebrae superioris.
- c. Muller's muscle.

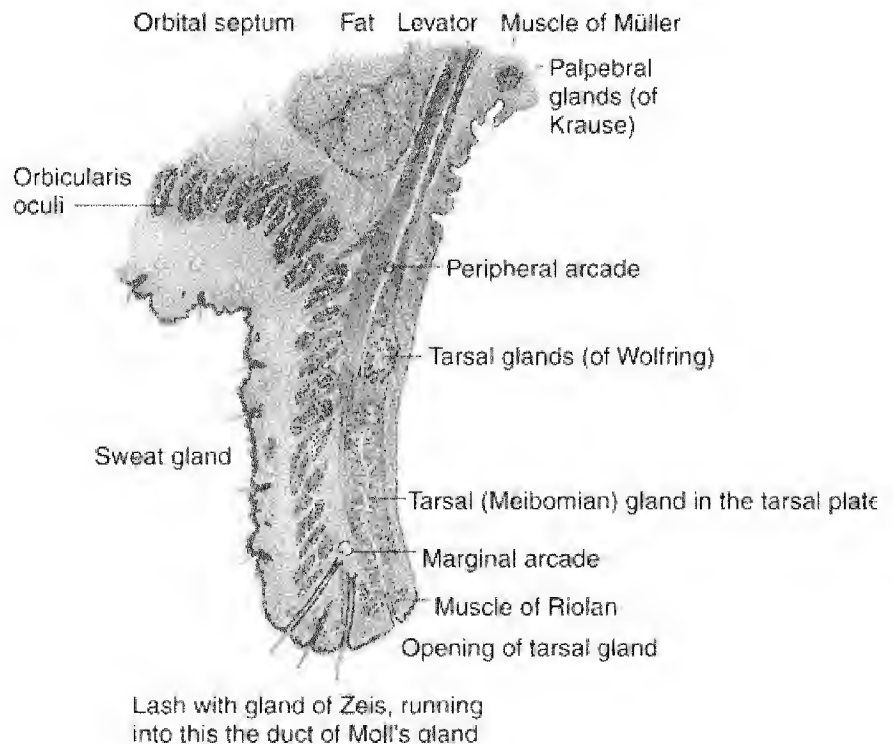
4. **Submuscular layer:** Loose CT containing blood vessels, lymphatics & nerves of the lid.

5. **Tarsus:** *Skeleton of the lid*

- a. Condensed fibrous tissue.
- b. Fixed to the bony orbit by medial & lateral palpebral ligaments.
- c. There are 20-30 meibomian glands in the upper tarsus & 10-15 in the lower.

6. **Palpebral conjunctiva:** Thin, vascular & firmly adherent to the tarsus by fibrous bands.

Sulcus subtarsalis: a sulcus 2mm behind the lid margin.



Muscles of the eyelid:

1. Orbicularis oculi: (4 portions):

a. Palpebral portion:

- **Origin:** Medial palpebral ligament.
- **Insertion:** Lateral palpebral ligament.
- **Action:** ⁽¹⁾Gentle closure of the eyelids as in blinking. ⁽²⁾It supports the lower lid in place.



b. Orbital portion:

- **Origin:** ⁽¹⁾Medial palpebral ligament & ⁽²⁾the medial part of the superior orbital margin.
- Forms a complete ring around the orbital margin to be inserted again into the medial palpebral ligament.
- **Action:** Tight closure of the lid.

c. Lacrimal portion (*Horner's muscle, pars lacrimalis*):

- **Origin:** Posterior lacrimal crest & lacrimal fascia.
- **Action:** Opening of the lacrimal sac.

d. Riolan's muscle (*Pars ciliaris*): Fine bundle of muscle fibers close to the lid margin.

Supplied by the **facial nerve**.

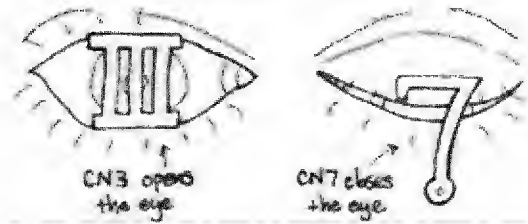
Paralysis of the orbicularis oculi leads to:

1. Lagophthalmos.
2. Epiphora.
3. Paralytic ectropion of the lower lid.

2. Levator palpebrae superioris muscle:

- **Origin:** Lesser wing of sphenoid bone at the apex of the orbit.
- Passes under the roof of the orbit & above the superior rectus ⇒ aponeurosis, which spreads in a fan-shaped manner.

- **Insertion:** The muscle is inserted into:
 - Skin of the UL at the upper palpebral sulcus.
 - Upper tarsus.
 - Upper fornix of conjunctiva.
 - Medial orbital margin & medial palpebral ligament (medial cornu)
 - Lateral orbital tubercle & lateral palpebral ligament (lateral cornu)
- Innervated by the superior division of the **oculomotor**.
- **Action:** Elevation of the UL.
- Paralysis $\Rightarrow$ ptosis.



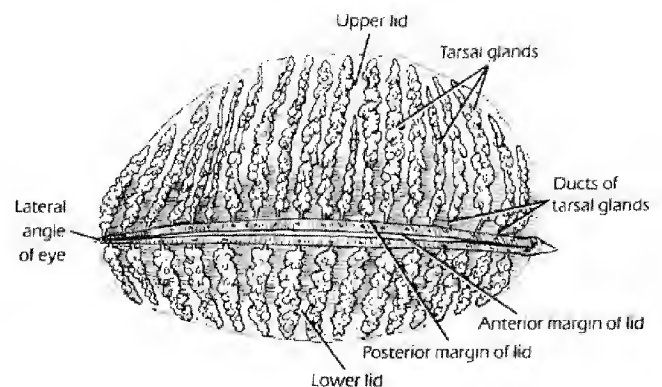
3. Muller's muscle:

- Involuntary muscle.
- Passes below levator palpebrae superioris.
- Innervated by sympathetic fibers.
- Keeps the UL elevated, preventing exhaustion of the levator.
- Paralysis occurs as part of Horner's syndrome.

Glands of the eyelid:

1. Meibomian glands:

- Sebaceous glands.
- 20-30 in UL & 10-15 in the lower.
- Present within the substance of the tarsus.
- Secrete an oily material $\Rightarrow$ the superficial tear film layer.



2. Zeis glands: Modified sebaceous glands, related to hair follicles.

3. Moll's glands: Modified sweat glands, related to hair follicles.

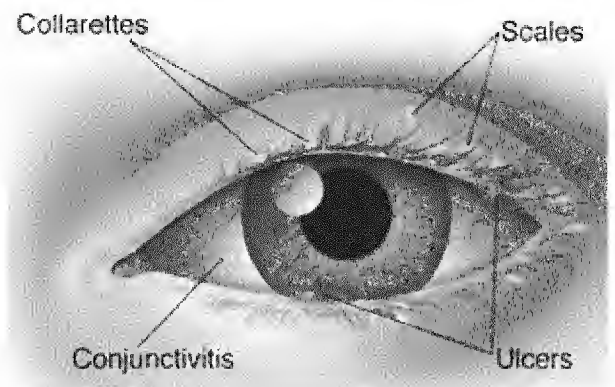
Inflammations of the eyelid

1. Inflammation of the lid itself: Lid abscess.
2. Inflammation of the lid margin: Blepharitis.
3. Inflammation of the lid glands:
 - a. Zeis glands: Styne (Hordeolum externum).
 - b. Meibomian glands:
 - Chronic inflammation: Chalazion.
 - Acute inflammation: Hordeolum internum.

Blepharitis

Definition: Chronic inflammation of the lid margins, ranging from simple hyperaemia to true inflammation.

Predisposing factors: ⁽¹⁾Smoke, ⁽²⁾dust, ⁽³⁾high temperature, ⁽⁴⁾uncorrected errors of refraction, ⁽⁵⁾diabetes mellitus & ⁽⁶⁾chemicals.



Types:

1. Squamous blepharitis.
2. Ulcerative blepharitis.
3. Angular blepharoconjunctivitis.
4. Parasitic blepharitis.
5. Allergic blepharitis.
6. Posterior blepharitis (Meibomian Gland Dysfunction).
7. Specific blepharitis: TB & Syphilis.

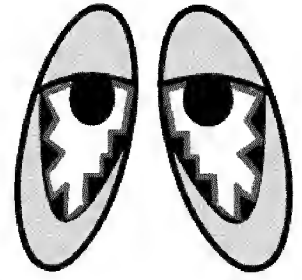


(1) Squamous blepharitis (*Seborrheic blepharitis*):

Etiology: Low grade infection on top of abnormal secretions of the lid glands (*Zeis glands*), similar to seborrheic dermatitis.

Symptoms: Burning, itching, lacrimation & epiphora.

Signs: Small white scales between the lashes, removal of these scales leaves a hyperaemic lid margin without ulceration.

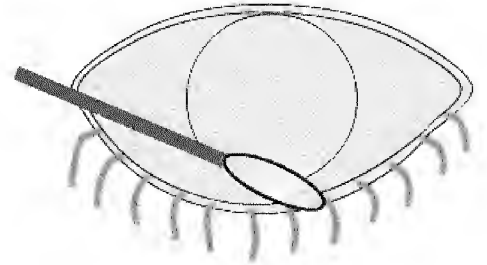


Complications: *(Only in longstanding blepharitis)*

- Ptylosis: Thickening & hypertrophy of the lid margin.
- Madarosis: Loss of eye lashes.

Treatment

- Treatment of seborrhea.
- Removal of scales: Using 3% sodium bicarbonate or diluted baby shampoo.
- Local antibiotic ointment.
- Treatment is continued for 2-3 weeks.



(2) Ulcerative blepharitis:

Aetiology

Predisposing factors: ⁽¹⁾Poor hygiene, ⁽²⁾malnutrition, ⁽³⁾diabetes & ⁽⁴⁾errors of refraction.

Causative organism: *S. aureus*.

Symptoms: Discharge, photophobia, burning & lacrimation.

Signs

- Yellow crusts gluing the lashes together.
- Removal of the crusts ⇒ small ulcers bleeding easily.

Differential diagnosis

- Squamous blepharitis.
- Dried discharge in conjunctivitis: Removal ⇒ intact skin.

Complications

- Chronic **conjunctivitis** ⇨ chronic blepharoconjunctivitis.
- **Madarosis**: Due to destruction of the hair follicles.
- **Trichiasis** or rubbing lashes: Ulcers heal by fibrosis.
- **Ptylosis**: Thickening & hypertrophy of the lid margin.
- **Epiphora**: As the posterior sharp edge responsible for tear distribution is damaged. (*Epiphora* ⇨ *Eczema* ⇨ *Ectropion* ⇨ *Epiphora*).
- **Ectropion**.
- Punctate **keratitis** (*In the lower 1/3 of the cornea*).
- Marginal **corneal ulcer**.

Treatment

1. General: Improve general health & control diabetes if present.
2. Local:
 - Lid hygiene:
 - Frequent massage to evacuate the meibomian glands.
 - Removal of scales: As in squamous blepharitis.
3. Elimination of infection:
 - Local eye ointment (gentamycin), after removal of crusts.
 - Treatment must be prolonged, as the organisms are hidden in the hair follicles & meibomian glands.

(4) Angular blepharoconjunctivitis:

Etiology: Morax Axenfield diplobacilli, it produces strong proteolytic enzyme, so infection starts at areas with relative absence of lysozymes (*Lateral angle, due to relative deficiency of tears*).

Clinical picture

- Red, fissured, edematous lid margin (*Localized to the angles*).
- Macerated skin (*Proteolytic activity*).
- Conjunctivitis.
- Discharge.

Complications

- Ankyloblepharon: Adhesions between the two lid margins.
- Marginal corneal ulcer.

Treatment

- Antibiotic eye ointment (*Tetracycline or erythromycin*). Shift to systemic antibiotics in resistant cases.
- Boric acid 4% lotion & zinc preparation, to neutralize the proteolytic activity.

(3) Parasitic blepharitis:

Etiology: Infestation with *pthirus pubis* (Pubic lice).

Clinical picture

- Itching, burning & lacrimation.
- The lashes are covered with nits.

Treatment

- Acetic acid 2% ⇒ loosen the nits.
- Yellow oxide of mercury ointment 1%: Destroys the larvae.
- Cutting the lashes may facilitate treatment.
- Any other infected area of the body must be treated.
- Continue treatment for 3 weeks.

(5) Allergic blepharitis:

Etiology: Usually due to cosmetics $\Rightarrow$ allergic lid dermatitis & blepharitis.

Clinical picture: Burning, itching, lacrimation.

Treatment

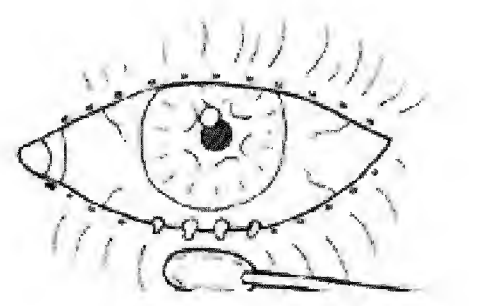
- Removal of the cause.
- Local steroid.
- Systemic antihistaminic.

(6) Posterior blepharitis (Meibomian Gland Dysfunction):

Clinical picture

- Burning, itching & lacrimation.
- Oil globules at the meibomian gland orifices.

Treatment: As seborrheic dermatitis + **artificial tears**.



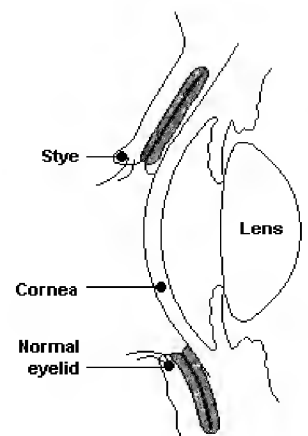
Srye (Hordeolum externum)

Definition: Acute suppurative inflammation of Zeis gland & the lash follicle $\Rightarrow$ formation of a small abscess.

Etiology

Predisposing factors: ⁽¹⁾Diabetes, ⁽²⁾poor general health & resistance, ⁽³⁾ulcerative blepharitis & ⁽⁴⁾errors of refraction.

Causative organism: S. aureus.



Symptoms

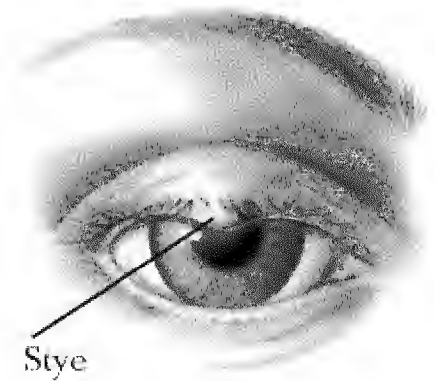
- Lid swelling.
- Severe pain (**Dull** on the start, then **throbbing** on pus formation)

Signs

Diffuse red swelling: ⁽¹⁾related to a lash, ⁽²⁾close to the lid margin & ⁽³⁾pointing on the skin.

Treatment

- Hot fomentation.
- Local antibiotics: Eye drops & eye ointment.
- Systemic antibiotics: Especially in multiple styes.
- If pointing occurred: Evacuate the pus through:
 - a. Epilation of the related hair follicle.
 - b. Horizontal incision of the formed abscess.
- Recurrent cases: Tests for possible predisposing factor (*DM*).

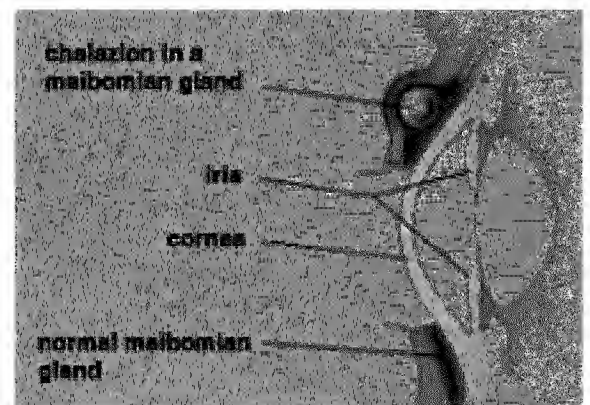


Chalazion (Meibomian cyst)

Definition: Chronic, non-specific, inflammatory lipogranuloma of a meibomian gland.

Etiology: (*Unknown*)

1. Obstruction of a meibomian gland duct $\Rightarrow$ retaining its contents. The duct may be obstructed by:
 - a. Proliferation of the duct epithelium ($\downarrow$ Vit. A)
 - b. Dry secretions of the gland: The retained secretions are irritant $\Rightarrow$ granulomatous reaction.
2. Chronic irritation by a low virulent organism.



Symptoms

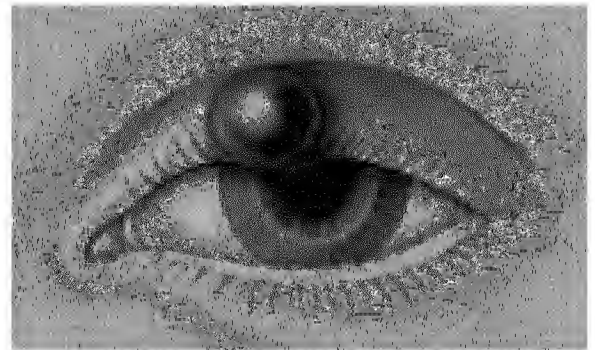
- Painless swelling of the eyelid, usually of a long duration.
- No pain, unless there is an infected chalazion (Acute chalazion, Hordeolum internum).

Signs

- Slowly growing painless swelling of the tarsus (*Felt under the skin*)
- On lid eversion: The conjunctiva is red over the nodule.

Fate

- Spontaneous **resolution**: Rare. With local antibiotic & steroids.
- **Infection** ⇨ Acute chalazion (*Hordeolum internum*).
- **Marginal chalazion**: Projection of the granulation tissue from the lid margin through the duct as a red nodule.
- **Cyst formation**.
- Opens through the conjunctiva.
- Reaches a large size ⇨
 - Mechanical ptosis.
 - Pressing the globe → astigmatism.



Differential diagnosis

- Adenoma & carcinoma of meibomian glands.
- Sebaceous cyst.
- Tuberculoma & syphilitic gumma.

Treatment

- **Very small chalazion**: Vitamin A, Local antibiotics & steroids.
- **Marginal chalazion**: Scraping from the lid margin, then diathermy.
- **Moderate or large chalazion**: Vertical incision & scraping from the conjunctival side.
- **Multiple chalazia**: Combined excision of the tarsus & conjunctiva, leaving the lower third of the tarsus (*To avoid lid notching*) with replacement by a mucous membrane graft.
- **Recurrent chalazia**: Excision biopsy, to exclude malignancy.



Hordeolum internum

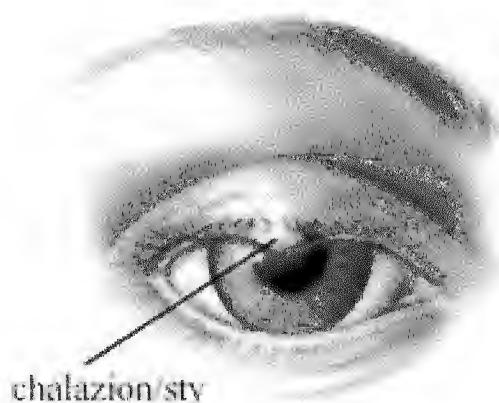
Definition: Acute suppurative inflammation of the meibomian gland, caused by *S. aureus*.

Types

- Primary.
- Secondary: On top of a chalazion.

Differential diagnosis: Hordeolum externum (Stye).

Treatment: The same as in a stye, but evacuation is carried out through the conjunctival side. It can be evacuated from the skin side, if it was pointing to the skin.



	Stye	Hordeolum internum
Site	At the lid margin. Related to a lash.	In the tarsus. Deep to the orbicularis.
Signs	Mild	Marked
Swelling	Related to a lash	Yellowish spot of pus is seen through the palpebral conjunctiva.
Orbicularis contraction	Not affected	Diminished
Treatment	• Antibiotics. • Horizontal incision.	• Antibiotics. • Vertical incision.

Disorders of the eye lashes

1. Trichiasis.
2. Rubbing lashes.
3. Madarosis.
4. Distichiasis.
5. Poliosis

Trichiasis

Definition: A condition where there is more than four lashes maldirected (Directed backwards) ⇒ rubbing against the cornea & conjunctiva, with the eyelid margin normal in position.

N.B. Rubbing lashes: Only four lashes or less are maldirected & rubbing against the globe.

Etiology

1. **Congenital:** Often in all the four lids. **Distichiasis** is a congenital condition in which there is an extra row of lashes in the place of meibomian glands (Behind the gray line).
2. **Acquired** (*Due to cicatrisation*):
 - a. Trachoma (*commonest*).
 - b. Ulcerative blepharitis.
 - c. Burns.
 - d. Diphtheritic conjunctivitis.

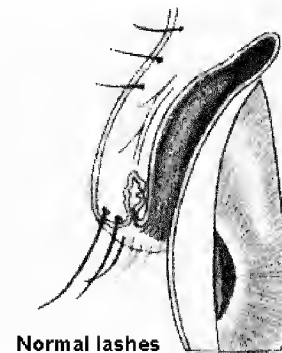


Symptoms

1. Foreign body sensation.
2. Conjunctival hyperaemia.
3. Photophobia.
4. Lacrimation.
5. Blepharospasm.

Signs

1. Maldirected, rubbing lashes.
2. Signs of complications.



Complications

1. **Conjunctival:**
 - a. Chronic conjunctivitis.
 - b. Conjunctival ulcer.
 - c. Epithelial plaque.
2. **Corneal:**
 - a. Recurrent corneal ulceration $\Rightarrow$ corneal opacities.
 - b. Superficial vascularization.
 - c. Epithelial plaque.



Treatment

1. Rubbing lashes: (*Permanently destroy the hair follicle*).

- a. **Diathermy:** Thermal coagulation.
- b. **Electrolysis:** Chemical coagulation.
- c. **Cryocoagulation.**
- d. **Epilation:** Not a permanent treatment, as the lash grows again in 4-6 weeks.



2. Trichiasis:

d. In the upper lid: **Van Millengen's operation**

Principle: Place a buccal mucous membrane graft into the gray line ⇒ displacing the rubbing lashes away from the cornea.

Indicated in cases of pure trichiasis of the upper lid.

e. In the lower lid: **Webster's operation**

Principle: Place a buccal mucous membrane graft into the sulcus subtarsalis ⇒ straightening the tarsus & lengthening the palpebral conjunctiva.

Indicated in lower lid cicatricial entropion or trichiasis.

N.B. Snellen's operation is indicated in Upper lid trichiasis with cicatricial entropion.

3. Distichiasis: Splitting of the lid margin & cryo application to destroy the hair follicles of the extra row of lashes.

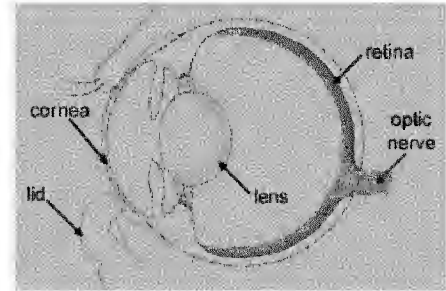
Malpositions of the eyelid

1. Entropion.
2. Ectropion.
3. Ptosis.

Entropion

Definition: Rolling inwards of the eyelid.

This causes the whole row of lashes to be rubbing against the cornea. Finally, there will be deformity of the tarsus.

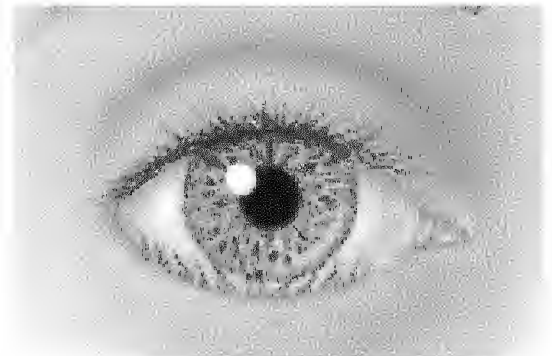


Types

1. **Congenital entropion:** Usually affects the whole lower lid.
Differential diagnosis: Epiblepharon, which affects only the medial aspect with absence of the lower lid crease.
2. **Spastic:** Spasm of the orbicularis muscle (Temporarily or permanent) in response to ocular irritation, as in:
 - Inflammation.
 - Exposed sutures.
 - Enophthalmos, enucleation.
3. **Involutinal (Senile):** Affecting only the lower lid due to overriding of the preseptal portion of orbicularis oculi over the pretarsal portion.
4. **Mechanical:** Due to lack of posterior support of the eyelid, as in cases of sunken globe.
5. **Cicatricial:** Fibrosis of the palpebral conjunctiva, due to:
 - Trachoma.
 - Chemical burns.
 - Diphtheria.
 - Ocular cicatricial pemphigoid.

Clinical picture &

complications: The same as trichiasis.



Treatment

1. Spastic entropion (+ *ttt of the irritating factors*):

a. Temporary measures:

- Manual correction & Painting of the lid skin by a collodion, or using **T-shaped adhesive plaster**.
- Injection of **90% alcohol** into the orbicularis muscle at the lateral canthus & near the lid margin, recently replaced by **botulinum toxin**.

b. Permanent measures:

- **Lateral canthotomy**: temporary weakening of Riolan's muscle, by dividing the lateral canthus with scissors.
- **Lateral canthoplasty**: As canthotomy, in addition to conjunctival repair at the lateral canthus.
- **Skin & muscle operation**: Removal of an elliptical area of skin & orbicularis muscle.

2. Involucional entropion:

a. Temporary treatment: Painting of a collodion, adhesive plaster, injection of botulinum toxin & everting sutures.

b. Permanent treatment:

- **Wheeler's operation**: Vertical division of the orbicularis muscle at the lateral end of the lateral end of the lower lid with overlapping & suturing of both edges.
- **Horizontal lid shortening**: Removal of a triangle at the lateral end of the lower lid, including excess skin, orbicularis muscle & tarsus.

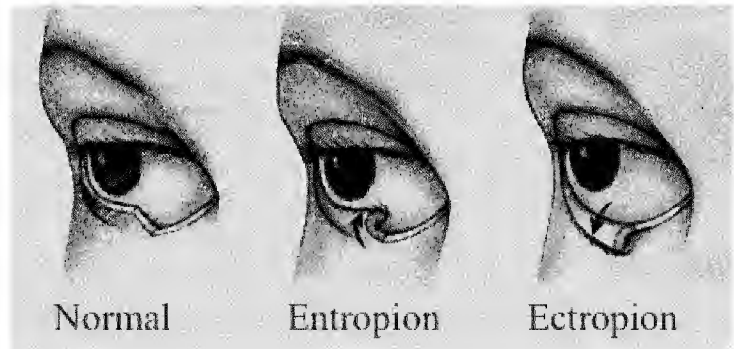
3. Cicatricial:

- a. Upper lid: **Snellen's operation**.
- b. Lower lid: **Webster's operation**.

4. Mechanical entropion: treatment of the cause.

Ectropion

Definition: Rolling outward of the lid from the globe. Usually affecting the lower lid as it stands against gravity.



Types

1. **Involutional (Senile):** Senile weakness of the orbicularis muscle & relaxation of the palpebral ligament.
2. **Cicatricial:** Scarring & shortening of the skin of the lower lid by burns, trauma or tumour.
3. **Paralytic ectropion:** Ectropion of the lower lid in facial palsy.
4. **Mechanical:** Increased weight of the lid, as in multiple chalazia.
5. **Congenital ectropion:** Rare.

Symptoms

1. Epiphora → Eczema → Ectropion → More epiphora.
2. Bad cosmetic appearance.



Signs: *Depending on degree of ectropion:*

1. **Mild:** Exposure of the lower punctum.
2. **Moderate:** Exposure of the palpebral conjunctiva.
3. **Severe:** Exposure of the bulbar conjunctiva.

Complications

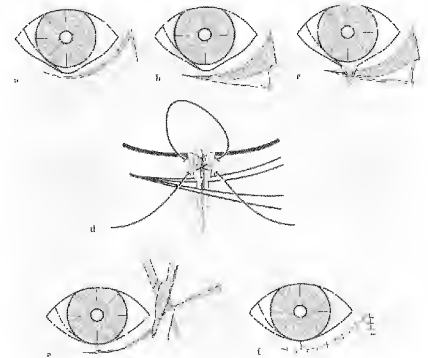
1. Loss of the marginal strip of tears.
2. Epiphora.
3. Chronic conjunctivitis & xerosis.
4. Ulceration & opacification of the lower third of the cornea.

Treatment

1. Involutional ectropion:

Mild:

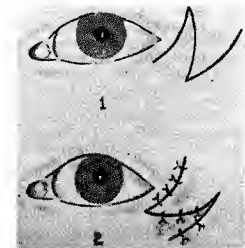
- Instruct the patient to whip his lower lid upward.
- Cautery to the conjunctiva: Induces fibrosis & contraction of the conjunctiva with correction of ectropion.



- **Snellen's inverting sutures.**

Severe:

- **Lateral canthal sling.**
- **Horizontal lid shortening & blepharoplasty.**
- **Dimmer's-Khunt operation.**



2. Cicatricial ectropion:

- Small scar: V-Y plasty, or Z plasty.
- Large scars: Skin graft & blepharoplasty.

3. Paralytic ectropion (*As in facial palsy*):

- Protection of the cornea: Lubricant drops during the day & ointment before sleep.
- Treatment of facial palsy: To help nerve regeneration.
- Lateral tarsorrhaphy:** Inducing adhesions between the upper & lower lids at the lateral canthus, either temporary or permanent ⇒ narrowing the palpebral fissure, so decreases exposure.
- Fascia lata sling & silicone sling operation:** In severe & recurrent cases: A sling is passed between the medial & lateral palpebral ligaments to support the lower lid in its normal position.

4. Mechanical ectropion: Treatment of the cause.

Ptosis

Definition: Drooping of the upper eyelid below its normal position.

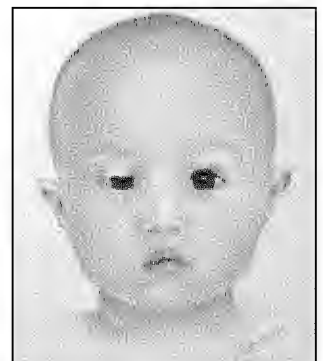
Types



1. **Myogenic:** Disorders of the levator muscle:
 - Congenital: Dystrophy of levator muscle → poor contraction & incomplete relaxation.
 - Acquired: Myasthenia gravis → Bilateral & increases at the end of the day & with prolonged fixation.
2. **Neurogenic:** Disorder of the nerve supply:
 - 3rd nerve palsy → paralytic ptosis.
 - Horner's syndrome: Disorder of the sympathetic supply to Muller's muscle.
3. **Aponeurotic:** Disorder of levator aponeurosis:
 - Involucional (Senile) ptosis: Degenerative process with age.
 - Postoperative ptosis: After intraocular surgery.
4. **Mechanical:**
 - Conjunctival scarring.
 - Excess weight as in edema, trauma or tumour.
5. **Pseudoptosis:** Loss of support: Enophthalmos & atrophie bulbi.
6. **Traumatic ptosis:** Trauma may lead to any of the previous factors.

Clinical picture: *Especially evident in congenital ptosis:*

1. Drooping of the upper lid.
2. Absent lid crease.
3. Corrugations of the forehead.
4. Arching of the eyebrow (*Astonished look*).
5. Chin elevation: In bilateral cases the head is thrown backwards & the eyes roll downwards.
6. Face turn: In unilateral cases, the head is tilted to one side.



N.B. In congenital ptosis, there is also weak superior rectus muscle action.

Evaluation of ptosis

1. **Degree of ptosis:** Measure the height of the palpebral fissure.

Mild: The upper lid covers about 4mm from the cornea.

Moderate: Covering about 5mm.

Severe: Covering 6mm or more from the cornea.



Severe



Moderate



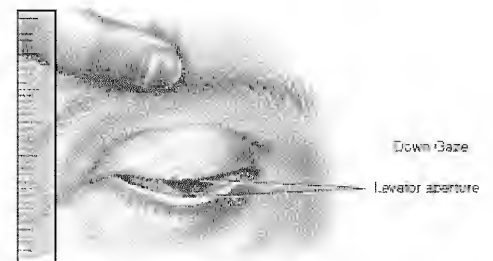
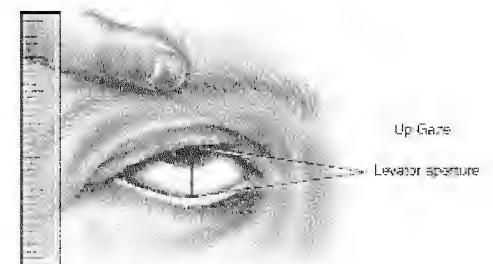
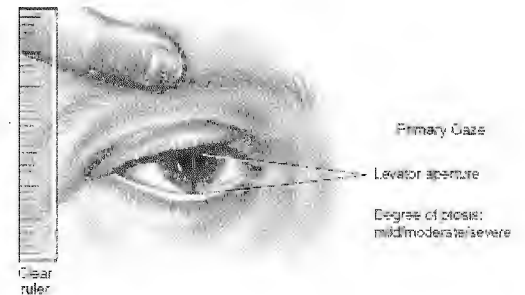
Mild

2. **Levator function:** Press the eye brows with your thumbs & ask the patient to open his eyes. (*Pressing with your thumbs eliminates the action of the occipitofrontalis*).

3. Evaluation of the **skin crease**.

4. **Meticulous ocular examination:**

- Corneal sensation.
- Visual acuity.
- Ocular motility.
- Dry eye.



Complications

1. **Amblyopia** in severe cases.
2. Lumbar lordosis.
3. Torticollis & contracture of the sternomastoid muscle.

Treatment



1. Congenital ptosis:

Factors affecting the line of ttt & prognosis:

- a. Amount of ptosis: Severe ptosis should be treated early to avoid amblyopia.
- b. Bilaterality: Unilateral ptosis should be corrected early to avoid amblyopia.
- c. Age at time of surgery: (6 years) to allow growth of the muscle, except in extensive unilateral cases
- d. Associated squint: Should be corrected first to avoid diplopia.
- e. Associated congenital anomalies: As epicanthus, should be treated first.

Operations:

a. Levator tucking:

Indication: Mild ptosis with good levator function.

Principle: Part of the levator muscle is excised together with the upper border of tarsus through conjunctiva.

b. Levator resection (Blaschovics or Everbauch's operation):

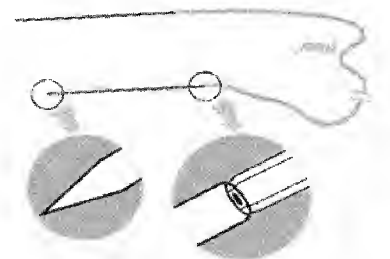
Indication: Moderate ptosis with good to fair levator function.

Principle: Resection & advancement of the levator muscle to strengthen the muscle.

c. Frontalis suspension (Hess operation):

Indication: Severe ptosis with poor levator function.

Principle: Suspension of the upper lid to the frontalis muscle by endogenous or exogenous materials. It causes corneal exposure.



Contraindications of surgical correction of ptosis:

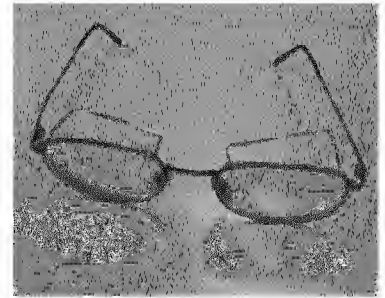
Absolute contraindication: Corneal anaesthesia.

Relative:

- Dry eye syndrome.
- Total 3rd nerve palsy: To avoid diplopia.

2. Acquired ptosis: treatment of the cause:

- a. Mechanical ptosis: Remove the tumour.
- b. Myasthenia gravis: Prostigmine.
- c. Paralytic ptosis: Wait for 6 months (*To allow regeneration*). Then surgical ttt.
- d. Involutional ptosis: Levator aponeurosis repair or levator resection.

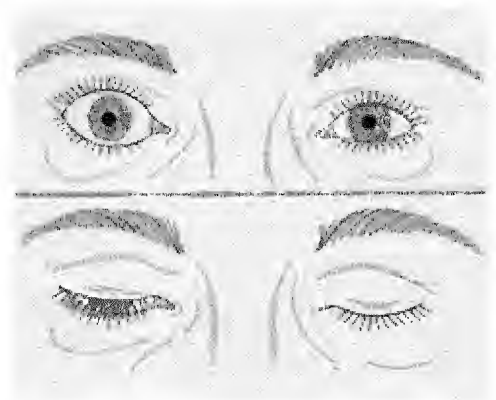


Lagophthalmos

Definition: Incomplete closure of the eyelids.

Etiology

- **Local causes:**
 1. Physiological: Lack of orbicularis tone during sleep.
 2. Orbicularis paralysis: as in Bell's palsy.
 3. Paralytic ectropion.
 4. Scarring of the lid.
 5. Coloboma of the lid: Coloboma is a tissue defect:
 - Congenital.
 - Post-traumatic.
 - Post-operative.
 6. Proptosis.
- **General:** Severe illness & weakness with atony of the muscles.

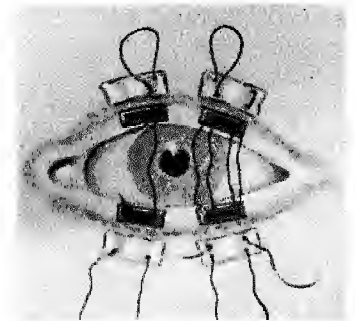


Clinical picture

- Mild cases: The condition is overcome by forcible lid closure.
- Severe cases: The eye is permanently opened.
- Epiphora.
- Chronic conjunctivitis & Xerosis.
- Keratitis & ulceration.
- Exposure keratopathy: Exposure of the cornea during sleep leads to dryness of its lower 1/3. Note that, the upper 2/3 of the cornea is protected by a physiological protective mechanism (Bell's phenomenon: *Rolling up of the eye during sleep*).

Treatment

1. Treatment of the cause: as in facial palsy.
2. Protection of the cornea:
 - During day: By glasses or contact lenses.
 - During sleep: Applying ointment at night.
3. Tarsorrhaphy: It may be medial, lateral, median, temporary or permanent.



Miscellaneous eyelid disorders

1. Symblepharon.
2. Xanthelasma.
3. Dermatochalasis.
4. Blepharochalasis.

Symblepharon

Definition: Adhesions between the lid & the globe, or between the bulbar & palpebral conjunctiva & the cornea. It occurs due to healing process, when there are two opposing raw surfaces.

Etiology

1. Burns & caustics.
2. Post-inflammatory: e.g. trachoma & diphtheria.
3. Post-operative: Especially after pterygium operation.
4. Ocular cicatricial pemphigoid.

Types

1. Anterior: Adhesions between the lid margin & the cornea.
2. Posterior: Adhesions at the fornix (Trachoma).
3. Total: Adhesions between the whole lid & the globe (Burns).

Clinical picture

1. Limitation of the ocular motility & diplopia.
2. Diminution of vision in cases of corneal affection.
3. Exposure keratopathy & conjunctivitis.
4. Ankyloblepharon.
5. Bad cosmetic appearance.

Treatment

1. Prophylactic:
 - i. Ointment: Ample amounts during day & night.
 - ii. Corticosteroids: Antifibroplastic action.
 - iii. Glass rod coated with antibiotic is passed between the lid & the globe several times daily.
 - iv. Contact shell is used until healing occurs.
2. Curative:
 - i. Synechotomy: Cut the adhesions.
 - ii. Mucous membrane graft: To cover the opposing surfaces.
 - iii. Keratoplasty: In cases of corneal affection & opacity.

Lid edema

Etiology

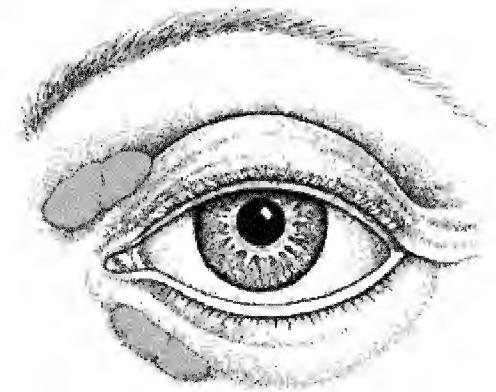
1. Traumatic:
 - Injuries.
 - Insect bites.
2. Inflammatory: Inflammation in the lid, conjunctiva, iris & endophthalmitis.
3. Non-inflammatory

- Allergic angioneurotic edema:
 - Acute onset.
 - No signs of inflammation.
 - Local medication e.g. atropine.
 - Systemic vasomotor disturbance e.g. with menses.
- Passive systemic edema: Due to any systemic cause of generalized edema e.g. cardiac & renal cases.

Differential diagnosis

1. Surgical emphysema.
2. Myxoedema.
3. Dermatochalasis.

Xanthelasma Subcutaneous deposits of cholesterol in the medial canthus region, seen in diabetes & hypercholesterolaemia.



Dermatochalasis Redundancy of the upper eyelid skin with fat, with advancing age. treatment is by: Blepharoplasty.



Blepharochalasis With young age, recurrent attacks of lid edema, causing redundancy of the upper lid skin.